AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-9 – cancelled.

10.   (Original) A method of controlling a plurality of network communication units which are linked by a cascade connection that provides a communication path for data packets from any unit to any other unit, comprising:

(i)   establishing a control path for control messages from each unit to the next, the control path being distinct from said communication path;

(ii)   sending along said control path control messages which include fields denoting an identification of a communication unit and a count of communication units which are operative to receive and forward data packets on said communication path; and

(iii)   for each respective unit;

(a)   altering the identification to denote the respective unit; and

(b)   incrementing the said count if the respective unit is operative to receive and forward data packets on said communication path.

11.   (Original) A method according to claim 10 and further comprising determining when said count is complete and broadcasting a total of said count by way of control messages on said control path.

12.   (Previously Presented) A connecting unit for use in a system comprising a plurality of network communication units having a cascade connection including said connecting unit, the connecting unit having three ports consisting of a first, second and third port, each port of the connecting unit being adapted for coupling to one of said network communication unit and for forwarding and receiving data packets, the connecting unit including multiplexers which can provide a data path for packets from each of the said ports to either of the others and which provide for bypassing of a port to which an active communication unit is not coupled.

13.   (Previously Presented) A connecting unit according to claim 12 wherein each port transmits and receives control messages so as to determine the status of a communication unit to which the respective port is connected, the multiplexers being controlled by control logic responsive to the control messages.

14.   (Previously Presented) A connecting unit according to claim 12 and disposed to increment a signal value representing identification numbering in accordance with the number of communication units to which the connecting unit is coupled and to increment a signal value representing an active unit count in accordance with signals indicating an operational state of each communication unit to which the connecting unit is coupled and to effect by way of the control messages the communication of said signal values from at least the second port.

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15.   (Previously Presented) A connecting unit for use in a system comprising a plurality of network communication units having a cascade connection including said connecting unit, the connecting unit having three ports consisting of a first, second and third port, each port of the connecting unit having lines for forwarding and receiving data packets and for forwarding and receiving control messages, and including control logic under the control of the control messages, the connecting unit providing a data path for packets from the first port to the third port and from the third port to the second and also from the second port to the first, the connecting unit forwarding to the third port packets received at the first port when said control logic indicates that an active communication unit is coupled to the third port and bypassing the third port when said control logic indicates that an active communication unit is not coupled to the third port.

16.   (Previously Presented) A connecting unit according to claim 15 wherein the connecting unit includes multiplexers each of which is controllable by the control logic to direct packets received at a respective port to either one of the other two ports and to cause bypass of a port to which an active communication unit is not connected.

17.   (Previously Presented) A connecting unit according to claim 16 wherein the control logic receives by way of the first port control massages indicating a identification number and provides from the second port control messages modified to indicate an increase in the identification number.

18.   (Previously Presented) A connecting unit according to any of claim 15 wherein the control logic receives by way of the first port a count which represent a number of active

communication units and provides from the second port a count which is incremented or not

according as an active communication unit is coupled to the third port.

19.   (Previously Presented) A system comprising at least three network

communication units each of which has a cascade port and a multiplicity of other ports for the

reception and forwarding of addressed data packets, and at least one connecting unit, each such

connecting unit having a first, second and a third port each having lines for forwarding and

receiving data packets and for forwarding and receiving distinctive control messages, wherein

each communication unit is coupled by way of its cascade port to a respective port of a

connecting unit, whereby to form a ring connection constituted by a point-to-point

communication link between each communication unit and the next in the system and wherein

each connecting unit includes control logic for generating and receiving the control messages

and for controlling the connecting units to cause the data packets to bypass a port of said

connecting unit when an active communication unit is not coupled to that port.

20.   (Previously Presented) A system according to claim 19 wherein the connecting

units provide a data path for packets in each of two directions around the ring.

21.   (Previously Presented) A system according to claim 19 wherein for each

connecting unit the control logic receives control messages indicating a identification number

and to provide control messages modified to indicate an increase in the identification number.

22.   (Previously Presented) A system according to claim 19 wherein for each

connecting unit the control logic receives a count which represent a number of active

communication units and   provides a count which is incremented by unity or not according as

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an active communication unit is or is not coupled to the third port of the respective connecting unit.

23.   (Previously Presented) A system according to claim 15 wherein each communication unit accommodates an interface which is coupled to a single respective port of a connecting unit and provides for the communication of data packets between the respective communication unit and the connecting unit having said respective port.

24.   (Previously Presented) A system according to claim 23 wherein the interface provides for the storage of a respective identification number.

25.   (Previously Presented) A system according to claim 23 wherein said interface is a modular unit removable from the respective communication unit.

26.   (Previously Presented) A system according to claim 23 wherein for connecting a port of a connecting unit to a port of another connecting unit there is provided a connecting cable which co-operates with a signal state of said control messages to indicate which end of the cable is connected to a respective one of said first and second ports.

27.   (Previously Presented) A connecting unit for use in a system comprising a plurality of network communication units having a cascade connection including said connecting unit, the connecting unit comprising:

(i)   three ports consisting of a first, second and third port, each port of the connecting unit being adapted for forwarding and receiving data packets;

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(ii)　　multiplexers which can provide a respective data path for packets to each one of the ports from either of the other two ports selectively; and

(iii)　　control logic for determining for each port a link status and for controlling the multiplexers to bypass any one of said ports when the respective link status indicates that data packets are not to be received from that port.

28.　　(Previously Presented) A connecting unit according to claim 27 wherein there is one of said multiplexers for each port and each such multiplexer is controllable to direct to the respective port data packets from either one of the other two ports selectively and wherein the multiplexers bypass a port by preventing supply of packets from that port to the other two respective ports.

29.　　(Previously Presented) A connecting unit according to claim 27 wherein each port is arranged to transmit and receive control messages so as to determine the link status of the respective port.

30.　　(Previously Presented) A connecting unit according to claim 29 wherein each port has respective lines for the transmission and reception of the control messages separately from the data packets.

31.　　(Previously Presented) A connecting unit according to claim 29 wherein the control logic determines that data packets are not to be received from a port when the control logic determines an absence of control messages received by that port.

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32.   (Previously Presented) A connecting unit according to claim 29 wherein the control messages include a field for representing the link status as if it were false.

33.   (Previously Presented) A connecting unit for use in a system comprising a plurality of network communication units having a cascade connection including said connecting unit, the connecting unit comprising:

(i)   three ports consisting of a first, second and third port, each port of the connecting unit being adapted for forwarding and receiving data packets and for transmitting and receiving control messages separately from the data packets from the connecting unit;

(ii)   multiplexers which can provide a respective data path for packets to each one of the ports from either of the other two ports selectively; and

(iii)   control logic for determining for each port a link status depending on whether control messages are received by the port and for controlling the multiplxers to bypass any one of said ports when the link status corresponds to the absence of reception of control messages at that port.

34.   (Previously Presented) A connecting unit according to claim 33 wherein there is one of said multiplexers for each port and each such multiplexer is controllable to direct to the respective port data packets from either one of the other two ports selectively and wherein the multiplexers bypass a port by preventing supply of packets from that port to the other two respective ports.

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35.   (Previously Presented) A connecting unit according to claim 33 wherein the control messages include a field for causing the control logic to treat the reception of control messages as the absence of control messages.

36.   (Previously Presented) A connecting unit according to claim 33 wherein the control logic is arranged to receive by way of the first port control messages indicating an identification number and to provide from the second port control messages modified to indicate an increase in the identification number.

37.   (Previously Presented) A connecting unit according to claim 33 wherein the control logic is arranged to receive by way of the first port control messages including a count which represents a number of active communication units and to provide from the second port control messages including a count which is incremented or not according as an active communication unit is coupled to the third port.

38.   (Previously Presented) A connecting unit for use in a system comprising a plurality of network communication units having a cascade connection including said connecting unit, the connecting unit comprising:

(i)   three ports consisting of a first, second and third port, each port of the connecting unit being adapted for forwarding and receiving data packets and for transmitting and receiving control messages separately from the data packets from the connecting unit;

(ii)   for each port, a respective multiplexer which is controllable to direct to the respective port data packets from either one of the other two ports selectively whereby the

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multiplexers can bypass a port by preventing supply of packets from that port to the other two

respective ports; and

(iii)   control logic for determining for each port a link status depending on whether

control messages are received by the port and for controlling the multiplexers to bypass any one

of said ports when the link status corresponds to the absence of reception of control messages at

that port.

39.   (Previously Presented) A connecting unit according to claim 38 wherein the

control messages include a field for causing the control logic to treat the reception of control

messages as the absence of control messages.

40.   (Previously Presented) A connecting unit according to claim 38 wherein the

control logic is arranged to receive by way of the first port control messages including a count

which represents a number of active communication units and to provide from the second port

control messages including a count which is incremented or not according as an active

communication unit is coupled to the third port.